



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

THE PRINCIPLES OF HUMAN PROGRESS

By Professor T. D. A. COCKERELL

UNIVERSITY OF COLORADO

LIFE is a phenomenon manifested only by and through protoplasm, a jelly-like substance having the physical properties of a liquid, forming the essential basis of all plants and animals. This protoplasm is a carbon compound, consisting of extremely complex molecules, which are continually in a state of change; yet it maintains its essential characters from generation to generation, and is, in a large sense, one of the most permanent substances in the world. In spite of the conservatism of this changeable substance, evolution has taken place. In the course of millions of years, millions of species of animals and plants, each having its own particular place in nature, have come into existence. All these species, and the divisions of species which we call varieties or races, have distinctive characters, which may with rare exceptions be observed in dead and preserved specimens. Such characters we call *morphological*. There are, however, other characters, the description of which is the function of physiology and psychology, which are dynamic rather than static; which can not be seen in preserved specimens, though they may often be inferred. Characters of this latter class are exhibited in the *reactions* of the organism to external and internal stimuli. Even such a regular process as the beating of the heart requires a stimulus, though this is furnished automatically.

When we regard vast periods of time, evolutionary progress can be readily appreciated; change seems to be the rule. Morphological, physiological and psychological characters have all gone into the melting-pot, to emerge in new forms and phases. Progress and life appear to be almost synonymous. Yet we find, on investigation, that the *tissues* out of which living things are made are extraordinarily permanent. So also are the *determiners*, the units in inheritance; while many species have existed untransformed for enormous periods.¹ The correlation of

¹ Pearl, quoting Loeb, states that Walcott found "that pre-Cambrian annelids, snails, crustaceans, and algæ were in many cases so like forms living to-day as to belong to the same genera." (*American Naturalist*, Feb., 1917, p. 90.) This is, of course, altogether incorrect.

evolutionary progress with *human* progress appears increasingly doubtful; the processes may not even be of the same nature. Even in those cases, such as the evening primroses of de Vries, where "mutation" is rampant, we find on analysis no real resemblance to human progress. The phenomena appear to need different designations, for which the current language is rather inadequate.

Forgetting the slow sweep of evolution, and dealing with short periods of time, we find that *species* are essentially static. Species, as we find them, *are*: they are not in process of becoming. As species, they ordinarily know nothing of progress. Man himself, in a wild state, remains unchanged for ages. The remoter regions of the Amazon harbor tribes who live like animals of the forest, and have no history. For them, one epoch, one century, is like another.

On the other hand, the *individual* is intensely dynamic. He is continually in process of becoming. For him, progress never ceases, though its rate rapidly decreases from the beginnings of life. The years, the days, all have their history, their succession of *different* events. For different individuals, the character and amount of this progress will differ, but none can escape the procession of events represented by physical growth, mental development coming from experience, and so forth.

Now we see that physiological characters, *regarded as specific*, have no more relation to progress than morphological ones. Lester Ward used to argue that physiology is not a dynamic science, because it is as it were an aspect or consequence of morphology. The *go* of the living thing is an individual *go*, not a specific one. It is not part of evolution.

Whence, then, comes human progress? How is it that the *species* *Homo sapiens* has taken on the dynamic features of the *individual*; has almost become a vast and long-lived individual? The various readjustments shown by animals and plants under new conditions do not offer parallel phenomena. They all represent movements toward new positions of stability. Human progress, instead of leading to stability, carries with it a principle of acceleration.

Mankind was well embarked on this new adventure before it was realized what was happening. It is not so very long ago that the idea of *necessary* progress was foreign to us. There was, indeed, a sense of *change*, and it was supposed that our species had fallen from some high estate. Eden knew no progress, it was a place of perpetual bliss, undisturbed by reformers. The fall was due to a centrifugal disturbance, diverting man

from his natural accustomed round. Once the circle had been broken, there was no return to the old state of affairs, and as a penalty for refusal to conform, conformity became forever impossible. The burden of sin could never be lifted from the species, but worthy individuals would pass after death into a sphere where the old uniformity, the old monotony, reigned once more. With the enormous growth of stored knowledge following the invention of printing and the revivification of science, together with the rapidly increasing exploration of every part of the world, progress became increasingly rapid. It began to be apparent that man had not merely lost his way; *he was going somewhere!* The appreciation of this stupendous fact was bound to change the whole intellectual and moral outlook. Social progress, really analogous to individual progress, had become the rule. Reformers were no longer trying to reverse the current, or to find a way out of the consequences of our first parents' disobedience. Joyfully, they took up the task of *raising* the species to that degree of maturity to which it was entitled. Whether, like a person, it must some day die, need not be considered. It was in any event destined to live far into the future, and to develop in ways beyond imagining.

It is interesting to note the gradual diffusion of the new point of view, even so recently as during the nineteenth century. The earlier reformers of that period were largely concerned with the removal of disabilities, with remedies for existing evils. Their main thought was to cure the patient, who was certainly in need of it. As the years wore on, the dominant attitude gradually shifted. The doctrine that the best government is that which makes itself least necessary was abandoned. *Laissez faire* gave way to *constructive* ideals, and while it remained necessary to combat evils, *development* became the leading purpose.

Progress beget progress. Each move forward disclosed fresh fields of opportunity, and those who neglected them found themselves abandoned by the moving social mass. To keep up with the procession was necessary, in order to retain the benefits of social life. Progress was no longer the fruit of idealism, it had acquired an ever increasing momentum of its own. Unfortunately, the speed of the several parts was extremely unequal, and serious dislocations resulted. Conservatives tried to hold back the advanced groups, radicals to spur on those who lagged. Their diagnosis of the trouble was exactly opposite. Yet in a sense both were right.

Thus the modern reformer, the modern progressive, is like

a man in a chariot pulled by many horses. He can not stop, he does not wish to—all he can do is to attempt to control the animals. This one must be held in, this encouraged by the whip; this held to the road, lest it upset the vehicle. He no longer says, with the philosophers of a mechanistic school, “let them go, they will go when they must!” He feels more and more his responsibility, and the need for controlling the processes which he can not and usually would not stop. For his guidance he appeals on the one hand to science, to the facts with which he has to deal—the structure of the vehicle and the nature of his beasts—on the other to his idealism, his innate feeling concerning the nature and proper destiny of man. He may make mistakes, but he knows that damnation equally with salvation lies on the road before him, and that he, and he alone, can determine which it shall be for him and his. Yet he feels that he is not alone in a deeper sense; he prays to his God, confident that there is something in the very structure of the universe which will uphold his arms.

Where is he going? Is there some haven of realized ideals, some ultimate goal of social stability and perfection? He does not know, but the wind blows in his face, and the dawn of a new day lights the eastern sky.